Obituaries

TERENCE (TERRY) CHARLES ERNEST WELLS 1935–2008

Terry Wells was born and spent his childhood in Bedfordshire. He died on 4 September 2008, having been suffering from Parkinson's disease for several years, and more recently from cancer. Terry was B.S.B.I. vice-county recorder for Huntingdonshire for 40 years, but his main contribution was in the fields of grassland management, plant ecology and demography.

Botany was an early interest in his life when he made a collection of pressed leaves for a scout badge. This interest was encouraged by his history teacher at Luton Grammar School, John Dony. Terry often accompanied Dr. Dony on field excursions, gathering information for both the Flora of Bedfordshire (Dony 1953), and later on for the Flora of Hertfordshire (Dony 1967). He studied Agricultural Botany at Reading University, where his professor was Hugh Bunting, and where he met his wife, Sheila. After graduating, he spent three years in Jamaica as an agronomist, returning to the UK in 1962 to take up the post of Grassland Ecologist at the newly-established Nature Conservancy Experimental Station at Monks Wood, near Huntingdon. He remained there throughout his professional career, retiring in 1995.

It was at Monks Wood that I first met Terry, becoming his botanical assistant in 1965. His main work at this time was on the effects of grazing and mowing on chalk grassland, and regular field trips to Barton Hills, Bedfordshire, were an essential part of this. The short 'clippings' from the experimental plots were then sorted into species in the laboratory, and Terry taught me how to identify all these species, especially grasses, from pieces as small as one centimetre. During this process, we discussed sport, beer, general conservation issues, and writing a Flora of Huntingdonshire.

One of the major projects at that time was the Nature Conservation Review (Ratcliffe 1977), with Terry being the main author of the calcareous grasslands section and a major contributor to that on mixed heath and rich grasslands. The Grasslands team would set off in an old, long-wheeled base Landrover with no power-steering, each Monday morning, returning late on a Friday, having visited and recorded many of the calcareous areas in England. We were joined by Derek Wells, also



a former agricultural botanist, which caused some confusion – hence the nicknames Terry 'Dry' Wells (who preferred the well-drained chalk) and Derek 'Wet' Wells (who preferred wet, alluvial meadows). This was a happy, explorative time, when wonderful sites such as Parsonage Down in Wiltshire were discovered.

In addition to his main research on grassland management, he began a series of studies on individual species. The first was on Spiranthes spiralis at Knocking Hoe, Bedfordshire, which was set up using the co-ordinate method, which gave a unique reference for each plant. This is now one of the longest demographic studies in the world. The early results were published in the classic paper (Wells 1967). The study continues to this day, although the population has declined over the years and no longer takes five days to record but a mere half a day. Other long-term studies were initiated on Herminium monorchis, Ophrys apifera and Orchis morio, and he collaborated with Jo Willems from the University of Utrecht, organising a European conference on terrestrial orchids (Wells & Willems 1991). Then he widened his perspective and published two Biological Floras on Pulsatilla vulgaris (Wells & Barling 1971) and Hypochoeris maculata (Wells 1976).

During the 1970s Terry became very interested in the restoration of grassland habitats, and from his considerable knowledge of ancient grassland and population dynamics of rare species, he pioneered development of seed mixtures for establishing amenity grasslands on roadside verges and in country parks. His booklet Creating attractive grasslands using native plant species (Wells, Bell & Frost 1981) sold 8,000 copies. He also developed techniques for recreating apparently 'ancient grassland communities'. Indeed his chalk grassland plots at Therfield Heath, Hertfordshire, which are still monitored to this day, were one of the first attempts to recreate chalk grassland, and now, over 30 years later, they are almost indistinguishable from the adjacent chalk downland (Wells 1990). Another 'first' was undertaking a scientific survey of the Ministry of Defence ranges on Porton Down, Wiltshire (Wells, Sheail, Ball & Ward 1976). Terry and his team, through meticulous survey and historical research, were able to show the importance of past land-use in determining the current composition of the vegetation and how, in some cases, apparently ancient swards were actually quite recent in origin. This site is now recognised as being of international significance and is a refuge for wildlife of the chalk as it is surrounded by agricultural land.

That grassland needed constant, but not necessarily the same management from year to year, was one of the main themes of Grassland section at Monks Wood (Duffey, Morris, Sheail, Wells & Wells 1974). It seems obvious to many of us now, but 40 years ago nature reserves were often designated, a fence and a notice erected, and then the area was left to fend for itself. Sites began to lose their wildlife interest through neglect and grasslands had soon turned to scrub and, in some cases, woodland. Terry was one of the first in assessing how the biological richness should be conserved, using farm stock and traditional methods as 'management tools' for nature conservation. Farmers were an important part of the scene and began to feel less threatened by these 'new approaches'.

Much of Terry's spare time was devoted to work in the area in which he lived around Upwood and in the county of Huntingdonshire. In 1967 he became B.S.B.I. vice-county recorder and finally published the *Flora of Huntingdonshire and the Soke of Peterborough* (2003). Terry loved being out in the field, leading many meetings for the Huntingdonshire Fauna and Flora Society, the Wildlife Trusts and the B.S.B.I. He always encouraged young and new members and often involved them in his regular recording of particular species. Sheila and his two daughters, Sarah and Beverley, spent many hours outside, and soon became familiar with Latin names. Sheila herself, decided to study fungi whilst Terry concentrated on the vascular plants, but they also shared their botanical interests, so it was a very fruitful partnership.

One of Terry's delights was the discovery of a series of meadows just behind his home at Upwood. 'There was this superb set of old meadows, not improved by fertilizers, with some cracking plants, right on my doorstep. Why had I not seen it before?' His dedication, meticulous recording and ability to champion a cause resulted in this area becoming an S.S.S.I., Wildlife Trust Reserve and an N.N.R. – a fitting and lasting tribute to his efforts.

Being involved in the local scene meant exactly that. He was Botanical referee for the H.F.&.F Society, their chairman and latterly their president. He was also a Council member of the Wildlife Trusts and was honoured by them in 2007. But he was also influential in other countries, starting with an exchange year with C.S.I.R.O. in Western Australia working on terrestrial orchids. He returned to that country in 1982/1983 on a Winston Churchill Travelling Fellowship, but this time to the eastern part, to lecture on habitat restoration and learn from what the Australians were doing on this topic. He also set up an Earth Watch project in the Albufera Marshes, Mallorca, and gave a lecture tour on conservation management in Japan. In 1997 he received an O.B.E. for his services to botany and conservation.

Terry was, to many of us, a larger-than-life character – a jovial, bustling, vigorous person, full of energy, enthusiasm and ideas, which he shared with his family, friends and colleagues. He was a keen sportsman, and had been a champion pole-vaulter at school, a rugby player for English Universities, and a member of the Upwood cricket team. In his quieter moments he liked listening to classical music and playing the recorder. He loved a beer, and could often be found in the pub, chatting with the locals – no doubt a valuable asset when he became chairman of the parish council.

Terry will be missed by all who knew and worked with him, but his achievements and legacy will live on for future generations to see and enjoy.

ACKNOWLEDGMENTS

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LYNNE FARRELL

JOHN FRANCIS MICHAEL CANNON 1930–2008

John Cannon was born on 22 April 1930, in Selsdon, in Surrey, then a rural village on the edge of Greater London. After primary schooling in Selsdon, he went to the Whitgift School, where in his sixth-form years he was taught biology by Cecil Prime, author of the New Naturalist on 'Lords and Ladies' (*Arum* species) who would have stimulated his interest in botany.

Conscription of school-leavers into H.M. Forces was still in force when, in 1947, John, having acquired his 'A-levels', had to consider the options available in the Army. He found that if he joined up as soon as his school education had finished he could enter a scheme whereby he could take up a university place a year hence. In fact, after primary and junior officer training, he left the Army after twelve and a half months, and in October, 1949, enlisted at Newcastle University College (then part of Durham University), to study botany, graduating three years later with a First Class Honours degree.

On graduating, John was offered the chance to study for a PhD at Newcastle working under Katie Blackburn on the cytology of Illecebraceae, but the draw of matrimony was uppermost in his mind and another three years as a low-paid student was weighed against getting a permanent job. Also during his vacations, John had worked at both Kew and the British Museum (Natural History) [The Natural History] Museum] and knew that this kind of botany would give him great satisfaction. He applied to the Civil Service Commission and was offered a research fellowship (without tenure) at Kew to work on the Flora of Tropical East Africa project, which he accepted but shortly afterwards was approached by the Keeper of Botany at the BM who offered him a tenure post as a Scientific Officer post at the Museum. As this offered a more stable environment in which to get married, he withdrew from the Kew post and started a taxonomic career with the Trustees of the British Museum that took him through to retirement.



John Cannon c. 1977

John's initial job at the Museum was in the General Herbarium, as it was termed, which contained the larger bulk of the phanerogamic extra-European collections, and where he was to help with the curation and identification of material from West Africa and the former Portuguese colonies of Central Africa under the guidance of Arthur Exell, the Deputy Keeper. At that time, work was in progress repairing the war damage done by incendiary bombs to the top floor of the East Wing which had held the European and un-mounted collections. The main floor was redesigned to become the Cryptogamic Herbarium, hitherto scattered in several floors in the Central Tower, but within it, a mezzanine floor was constructed, half of which was to become studies for research staff; the other half, a public Exhibition Gallery dedicated to botany only, something badly needed in the Museum where animals predominated!

The Gallery, of some 50 exhibition cases would cover the whole vegetable kingdom (including fungi) and touched on genetics, anatomy and ecology. To carry the project further the Museum Exhibition Department had contracted out the design, modelling and artwork to an outside firm, to which a member of Museum staff, well versed in the subject matter, would be attached to help the contractor. The Keeper of Botany, not wanting to take senior research staff off their projects, considered young Cannon, the latest recruit, and recently graduated from university, as the obvious choice.

It was John's brief to prepare the factual data to be displayed (the 'story-board'), writing any labelling that was necessary, researching for artwork or photographs and generally working as part of the contractor's team. He was given the freedom to call on the specialist knowledge of colleagues throughout the Department to help him, an aspect that required tact, gentle persuasion - and sometime persistence, to get the best results. John in his quiet way had all of these. The completed Gallery was opened by Her Majesty Queen Elizabeth, the Queen Mother, on 31 October 1962. It fell to John to escort H.M. round the exhibit – and she was not to be hurried! Cannon was kept on his toes with her in-depth questions - and her visit lasted twice as long as originally planned!

Working as liaison officer with the Gallery brought John into contact with most of the Department staff and he formed close friendships especially with those of us in the Crytogamic Herbarium who were of the same generation. The Museum was at that time revitalising its research and curation potential in lower plants but flowering plants still dominated the Department's image and thinking! So, in 1964, when some of us in the 'Crypt' thought that surveying the plants (of all groups) of a maritime locality which would also help to train younger curatorial staff we appraised our flowering plant colleague, John Cannon, of our thoughts. If anyone could sell it to top management it would be him. John showed some cautious enthusiasm but took it to the Keeper, James Dandy, and eventually, Trustees approval was obtained, together with the appropriate field expenses for a 5-year project. John became the leading organiser, taking on the compiling of the flowering plant section (with E. Bangerter) and producing all the maps (as camera-ready copy not at that time by computer!). The Island of Mull was chosen and an intensive programme of visits made throughout 1966–1970. We had the support of several institutes in Scotland and logistical support by the Royal Navy Air Station at Lossiemouth. The project enabled us to record some 5280 species in 1600 genera in a book of some 640 pp.

In 1966, on the retirement of Jim Dandy, Robert Ross (a diatomist) succeeded to the Keepership of Botany, with Dr A Melderis as his deputy. When the latter retired in 1972, John Cannon was appointed to the Deputy Keepership and in 1977, John succeeded Bob Ross as Keeper of Botany. John continued to work on the African flora contributing papers on Apiaceae, Araliaceae and Cornaceae for *Flora Zambesiaca* and the *Flora de Mocambique* but saw himself primarily as a manager.

In the early 1980s the Museum was beginning to widen its potential for taxonomic research. Some Botany members had already a close relationship with the Chelsea Physic Garden Curator and his staff and used space there to cultivate plants that they were studying. This gave facilities for cytology and, seeing this potential, John got the Trustees' support for the establishment of a staff member to work at Chelsea, and found money to hire space in the laboratory there and enlarge greenhouse facilities for our Departmental use. As a result, the staff member hired later returned to the Museum campus and played a significant part in developing molecular studies in the Botany Department.

In 1979 the Government published a Report on 'Taxonomy in Britain' a document that stimulated response from taxonomic research institutes as to the value of their work. As a result John was involved in co-writing, with the Keeper of the Herbarium at Kew, an application to S.E.R.C. that gave an initial three-year grant to the Linnean Society to assess the feasibility of producing a catalogue of the types of Linnaean names. The grant was awarded and the post based at the Museum. At the end of the three years, the original occupant was taken onto the permanent staff and, at the time of writing has continued to develop this important aspect of the Museum's work.

In 1958–1960 a young scholar from California, Peter Raven, had a visiting Fellowship at the Museum studying Onagraceae. He and John set up a close friendship. Twenty-five years later, Raven, then Director of Missouri Botanical Gardens, proposed an international project to compile a Flora of the countries in Central America. He had the support of Mexican botanists and as a European counterpart he invited his old friend John Cannon and the Natural History Museum to be the third member of the organising institutes. Flora Mesoamericana has been a long-term project in which the Department has deployed staff and played a significant role in organisation, field collecting, taxonomic accounts, editing and publication and continues to this day.

This cannot be a catalogue of Departmental work but the above is given as examples of some of the important developments that took place during John Cannon's Keepership. John had had, as Assistant Keeper, Peter James, a lichenologist, who had joined the Museum at about the same time, and, with his help, similar initiatives were developed in the Cryptogamic Sections.

Looking back on John Cannon's time as Keeper, he was seen by many of his staff as the architect of the current system of research and curation throughout the Department, some of which are detailed above. He was one of the few Keepers that did make the effort to come and see his staff. He introduced regular management meetings and would sound out members of his staff for items on the agenda, seeing himself as a facilitator of the ideas put forward. As a result foundations of important programmes were laid which have continued to be developed by the staff concerned.

He may have often appeared to be asleep when you were explaining anything technical but could suddenly pose an astute question to bring you to earth!

John Cannon joined the B.S.B.I. in 1951. After the Flora of Mull was published he took on the Recordership for the Island from 1966 till 1979. He was on various committees of the Society, including Development and Rules, becoming Secretary of its successor, the Coordinating Committee in 1970 onwards; also on Meetings and Publications Committees and Council. He was President 1983–1984; his address to the Society on *Posidonia* and other plant balls was both instructive and entertaining.

John Cannon retired in 1990 and for some time continued work on floristic accounts, some with his wife, Margaret, a competent botanist in her own right. One notable joint outcome was a book on natural dyes for wool and other fabrics *Dye Plants and Dyeing*, John and Margaret Cannon, illustrated by Gretel Dalby-Quenet, A. & C. Black, 2002. Throughout his life, John's family had come first and in retirement he was able to enjoy time with his grand-children. He was also active in his village of Rodwell being Church Warden and writing a history of the church with others.

I would like to thank former colleagues and present staff for their help in preparing this account; and also Paul, Pippa and Simon for allowing me access to their father's own notes on his earlier career. Our condolences go to them and their families.

OBITUARIES

TONY BRADSHAW FRS FLS 1926–2008



Although Tony Bradshaw, former Holbrook Gaskell Professor of Botany in the University of Liverpool, was a long-standing member of the B.S.B.I., he was little known to most members; his principal involvement was as B.S.B.I. taxonomic Referee for both *Crataegus* and *Agrostis*. In the wider environmental community, he was best known for his contributions to restoration ecology; but most of all he was an outstanding evolutionary scientist whose work on the development of metal-tolerance in grasses earned him an international reputation.

Born in Kew in 1926, he read botany at Cambridge before taking up a research position in Aberystwyth; he then moved to a lectureship in Bangor, which allowed him ready access to a natural laboratory in the form of metalliferous mine-waste on Parys Mountain, Anglesey. There, he pioneered the study of how native grasses adapted to tolerate heavy metal contamination, work which led to a wide range of applications in re-vegetating polluted soils. He was, indeed, a consultant on the restoration of china clay quarries in Cornwall, techniques which greatly benefitted the Eden Project.

On becoming Professor of Botany in Liverpool in 1968, he greatly expanded his team of researchers and established an Environmental Advisory Unit which undertook commercial consultancies. Several of his former students now occupy senior positions in academia and environmental agencies. He was also involved with the management of Ness Botanic Gardens, owned by the University, and in 1982 was made a Fellow of the Royal Society. In 1986, after the abolition of Merseyside County Council, he became a trustee of the National Museums & Galleries on Merseyside, and his wise counsel was much appreciated by the then director, Richard Foster.

An indication of the breadth of Tony's botanical and evolutionary interests was that he became a Fellow of the Linnean Society of London in 1988; in 2002 he introduced and chaired their symposium on metallophytes. He also served as President of the British Ecological Society, and helped to establish the Institute of Ecology and Environmental Management in 1991; it now has over 3,500 members.

Tony had a most engaging personality; nothing was too much trouble for him, whether answering enquiries on Hawthorn identification or travelling to India and China to advise on major landscape restoration projects. Latterly, he threw much of his energy into the restoration of a semi-derelict cemetery close to Liverpool's Anglican Cathedral: he was one of the most active members of the Friends of St. James' Gardens, a community group. Chairing the trustee board of the National Wildflower Centre in Knowsley was another of his achievements. Tony will be remembered not only for his highly productive academic career, but also for sharing his enthusiasm for botany with people in all walks of life.